We claim:

1. A system for collecting, conveying, and storing urine discharged from a human male

- 2 comprising
- means for collection of said urine from said human male comprising proximal and distal
- 4 ends and outer and inner surfaces;
- 5 means for storage of said urine before disposal of said wrine comprising proximal and
- 6 distal ends and outer and inner surfaces;
- means for conveying said urine from said means for collection of said urine to said means
- 8 for storage of said urine comprising proximal and distal ends and outer and inner surfaces; and
- 9 means for wicking said urine away from said human male wherein said means for
- wicking moves said urine away from said human male through said means for collection and
- said means for conveyance, and deposits said urine in said means for storage.
 - 2. A system as in claim 1 further comprising
- 2 first means of connection which connects said means for collection and said means for
- 3 conveying and which comprises an outer surface and an inner surface; and
- second means of connection which connects said means for conveying and said means
- 5 for storage and which comprises an outer surface and an inner surface,
- 6 wherein said first means of connection is selected from a group consisting of fixed and
- 7 removable, and said second means of connection is selected from a group consisting of fixed and
- 8 removable, and wherein said distal end of said means for collection is connected to said proximal
- 9 end of said means for conveyance through said first means for connection, and said distal end of

said means for conveyance is connected to said proximal end of said storage device through said second means for connection.

- 3. A system as in claim 2 wherein said first means for connection comprises
- 2 a collector-conveyance connector; and
- a conveyance-collector connector; and
- 4 said second mean for connection comprises
- 5 a storage-conveyance connector; and
- 6 a conveyance-storage connector,
- 7 wherein said conveyance-collector connector forms said proximal end of said means for
- 8 conveyance, said collector-conveyance connector forms said distal end of said means for
- 9 collection, said conveyance-storage connector forms said distal end of said means for
- 10 conveyance, and said storage-conveyance connector forms said proximal end of said means for
- 11 storage.
 - 4. A system as in claim 1 wherein said means for wicking comprises
- first wicking spacer disposed within said means for collection;
- second wicking spacer disposed within said means for conveying,
- 4 third wicking spacer disposed within said means for storage of said urine;
- first wicking spacer piece forming contiguous wicking connections between said first
- 6 wicking spacer and said second wicking spacer; and
- 7 second wicking spacer piece forming contiguous wicking connections between said
- 8 second wicking spacer and said third wicking spacer, wherein said first wicking spacer, said first
- 9 wicking spacer piece, said second wicking spacer, said second wicking spacer pieced, and said

third wicking spacer collectively form a complete wicking path from said means for collection to said means for storage.

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- 5. A system as in claim 1 further comprising at least one continuous uring impervious shell
- disposed on said outer surface of said means for collection, said outer/surface of said means for
- 3 storage, and said outer surface of said means of conveying.
- 6. A system as in claim 2 further comprising at least one continuous urine impervious shell
- disposed on said outer surface of said means for collection, said outer surface of said means for
- 3 storage, said outer surface of said means of conveying, said outer surface of said first means for
- 4 connecting, and said outer surface of said second means for connecting.
- 7. A system as in claim 1 wherein said means for wicking comprises a material selected from a
- 2 group consisting of rayon acetate needled felting; single component fibers selected from a group
- 3 consisting of wool, cotton, rayon, nylon, and polyester; blended fibers selected from a group
- 4 consisting of wool, cotton, rayon, nylon, and polyester; said single component and said blended
- fibers fabricated into a form selected from a group consisting of yarns, woven fabrics, mats, and
- 6 felts; open-cell foamed polymers, elastomers such as polyurethane foams; open-mesh materials
- such as steel wool; meshes of synthetic polymers such as polypropylene; and flexible solids such
- 8 as latex.
- 1 8. A system as in claim 1 wherein said means for collection comprises
- 2 means for wicking said urine away from said penis;

thin-wall hollow conduction tube having proximal and distal ends and a cavity

- sufficiently large to surround said penis; and
- compression tube having proximal and distal ends and sufficient size to be disposed 5
- around and provide radial compression coptact upon said penis at said proximal end of said 6
- conduction tube, wherein said means for wicking is disposed within said conduction tube.
- 9. A system as in claim 8 wherein said compression tube for securing a liquid collection device
- onto the penis of a human male comprises 2
- Thin-wall material having exterior and interior surfaces from which said compression 3
- tube is constructed;
- Means for expanding said compression tube wherein said means for expanding is 5
- attached to said thin-wall material for opening said compression tube to insert said penis; 6
- Collection device interface; and wherein said compression tube is properly sized to 7
- provide an area of radial compression contact on said conduction tube that is sufficient to 8
- minimize the slippage of said conduction tube and to seal against leakage of said urine from said
- means for collection.

- 10. A system as in claim 8 wherein said compression tube proximal end is connected to said
 - conduction tube proximal end and is properly sized to provide an area of radial compression
 - contact on said penis that is sufficient to minimize the slippage of said compression tube and to 3
 - seal against leakage of said urine between said penis and said compression tube. 4
 - 11. A system as in claim 8 wherein said conduction tube comprises a material selected from a
 - group consisting of thin-wall PE "lay-flat" tubing, rubbery polymer, silicone rubber, latex

- 3 rubber, polyolefin, flexible film material, fabrics, elastic, and elasticized fabric wherein said
- 4 material is physically flexible, facilitates liquid sealing, and enables frictional stability of said
- 5 collection device when worn by said human male.
- 1 12. A system as in claim 9 wherein said thin-wall material of said compression tube comprises at
- least one layer and is selected from a group consisting of woven elastomeric fabric, non-woven
- 3 elastic fabric, elastic fiber-containing fabric, elastomeric sheeting made from latex rubber, and
- 4 elastomeric sheeting made from silicone rubber wherein said material is adaptable to waterproof
- 5 coating and wherein said material, after waterproof coating, can still allow evaporation of water
- 6 vapor from said penis.
- 1 13. A system as in claim 9 wherein said compression tube distal end is connected to said
- 2 collection device interface proximal end and said conduction tube proximal end is connected to
- said collection device interface distal end, said compression tube is properly sized to provide an
- 4 area of radial compression contact on said penis that is sufficient to minimize the slippage of said
- 5 compression tube and to seal against leakage of said urine between said penis and said
- 6 compression tube.
- 1 14. A system as in claim 9 wherein said means for expanding said compression tube comprises
- At least two tube-spreading tools each having at least one leg and each having at least one
- 3 tip; and
- 4 At least two receiving openings disposed upon the perimeter of said thin-wall material for
- 5 holding in place said tube-spreading tool, wherein said tool-spreading tool tips fit into said
- 6 receiving openings to be used in opposition for expanding said compression tube.

- 1 15. A system as in claim 14 wherein said tube-spreading tool tip is long enough to enlarge the
- 2 entire length of said compression tube.
- 1 16. A system as in claim 14 wherein said receiving openings have a form selected from a group
- 2 consisting of one or more recesses along said perimeter of said compression tube and loops of
- 3 fabric or fiber.
- 1 17. A system as in claim 14 wherein each said tube-spreading tool is disposed with two handles
- that are connected to and operate in scissors-like cooperation with said tube-spreading legs in
- mated pair such that when one said handle is moved towards the other said handle, one said leg
- 4 moves away from the other said leg.
- 1 18. A system as in claim 14 wherein said tube-spreading tool is an integral part of said
- 2 compression tube.
 - 19. A system as in claim 4 further comprising a human male penis tip inserted into said means
- 2 for collection wherein said first wicking spacer disposed within said means for collection is
- 3 located between said penis tip and said first means of connection.
- 1 20. A system as in claim 3 wherein said means for wicking comprises
- 2 first wicking spacer disposed within said means for collection;
- 3 second wicking spacer disposed within said means for conveying,

- 4 third wicking spacer disposed within said means for storage of said urine;
- first wicking spacer piece forming contiguous wicking connections between said first
- 6 wicking spacer and said second wicking spacer; and
- 7 second wicking spacer piece forming contiguous wicking connections between said
- 8 second wicking spacer and said third wicking spacer, wherein said first wicking spacer, said first
- 9 wicking spacer piece, said second wicking spacer, said second wicking spacer pieced, and said.
- third wicking spacer collectively form a complete wicking path from said means for collection to
- 11 said means for storage.
- 1 21. A system as in claim 20 further comprising a human male penis tip inserted into said means.
- 2 for collection wherein said first wicking spacer disposed within said means for collection is
- 3 located between said penis tip and said collector-conveyance connector.
 - 22. A system as in claim 4 wherein said first wicking spacer comprises a y-shape having a tail and two legs such that said legs of said y-shape lie in proximity to said interior surface of said means for collection.
- 23. A system as in claim 1 wherein said means for collection comprises
- 2 Slitted sheath tube having left and right slit flaps and a tube cavity sufficiently large to
- 3 surround said penis;
- 4 Means for securing said left slit flap to said right slit flap; and
- 5 means for wicking said urine away from said penis that is disposed within said slitted
- sheath tube, wherein said slitted sheath tube is held in place on said penis by said means for
- 7 securing.

- 24. A system as in claim 23 wherein said means for securing said left slit flap to said right slit
- 2 flap comprises multiple hook-and-loop fasteners.
- 25. A system as in claim 23 wherein said means for securing said left slit flap to said right slit
- 2 flap comprises a zip-lock-type fastener.

26. A system as in claim 1 wherein said means for collection comprises

Sheath tube having a tube cavity sufficiently large to surround said penis and an opening

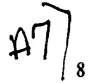
- 3 radial edge;
- 4 Means for covering said penis with said sheath tube;
- Means for securing said sheath tube to said penis; and
- 6 means for wicking said urine away from said penis that is disposed within said sheath
- tube, wherein said sheath tube is held in place on said penis by said means for securing.
- 27. A system as in claim 26 wherein said means for covering said penis, having tip and shaft,
- with said sheath tube comprises a ring of expandable tubing sized to fit said penis shaft, wherein
- said ring is fixedly connected to said sheath tube opening radial edge, said sheath tube is rolled
- 4 upon said expandable tubing, and said sheath is rolled off of said expandable tubing starting from
- 5 said penis tip and traveling up said penis shaft until said sheath is fully extended.
- 28. A system as in claim 27 wherein said means for securing said sheath tube to said penis shaft
- 2 comprises said ring of expandable tubing.

- 29. A system as in claim 26 wherein said means for covering said penis, having tip and shaft,
- with said sheath tube comprises a rigid plastic bellows expandable to fit said penis shaft, wherein
- said bellows is removably connected to said sheath tube opening radial edge, said sheath tube is
- 4 rolled upon said expandable bellows, said sheath is rolled off of said expandable bellows starting
- from said penis tip and traveling up said penis shaft until said sheath is fully extended, and said
- 6 bellows are removed from said sheath tube.
- 1 30. A system as in claim 29 wherein said means for securing said sheath tube to said penis shaft
- 2 comprises elastic-like material from which said sheath tube is fabricated.
- 31. A system as in claim 26 wherein said means for covering said penis, having tip and shaft,
- 2 with said sheath tube comprises
- a spring expandable to fit said penis shaft; and
- a toothed plastic strap disposed within said spring that allows said spring to expand but
- not contract, wherein said spring/strap combination is removably connected to said sheath tube
- opening radial edge, said sheath tube is rolled upon said expandable spring/strap, said sheath is
- 7 rolled off of said expandable spring/strap starting from said penis tip and traveling up said penis
- 8 shaft until said sheath is fully extended, and said spring/strap is removed from said sheath tube.
- 1 32. A system as in claim 31 wherein said means for securing said sheath tube to said penis shaft
- 2 comprises elastic-like material from which said sheath tube is fabricated.

- 1 33. A system as in claim 26 wherein said means for covering said penis having tip and shaft with
- 2 said sheath tube comprises a jaw ring expander for extending said sheath the length of said penis
- 3 shaft comprising
- 4 hand rest having hand end and ring end wherein a user grasps said hand rest at said hand
- 5 end;
- expandable jaw ring having means for connection to said ring end of said hand rest; and
- lever having means of connection to said hand end of said hand rest, wherein said
- 8 expandable jaw ring expands when said lever is depressed by said user, said sheath is draped
- 9 over said expandable jaw ring, said sheath is moved longitudinally up said penis shaft by said
- expandable jaw ring, said sheath contracts to fit said penis, and said lever is depressed to expand
- said expandable jaw ring sufficiently to remove said expandable jaw ring from said penis.
- 34. A system as in claim 33 wherein said means for securing said sheath tube to said penis shaft
- 2 comprises elastic-like material from which said sheath tube is fabricated.

35. A system as in claim 1 wherein said means for conveyance comprises

- 2 waterproof conveyance tube film layer;
- 3 conveyance tube having an exterior surface upon which said waterproof conveyance tube
- 4 film layer is disposed and a hollow interior into which said penis is placed;
- 5 means for wicking said uring through said conveyance tube wherein said means for
- 6 wicking prevents said interior of said conveyance tube from becoming blocked when crimped or
- 7 kinked;



wherein said means for wicking is disposed within said conveyance tube film layer and

- 9 the combination of said means for wicking with said film layer is sufficiently flexible to conform
- to normal bodily movement and position.
- 1 36. A system as in claim 35 wherein said means for wicking comprises a material, having
- 2 internal structure and external surface, wherein said internal structure is flexible, of low density
- so as not to add substantial weight to said conveyance tube, open/porous, and relatively more
- 4 wettable by water than polyolefins, and wherein said surface is rough.
- 1 37. A system as in claim 35 wherein said means for wicking comprises a material selected from a
- 2 group consisting of rayon felt having a width from approximately 15 to 50 mm (0.6 to 2 inch)
- and a thickness from approximately 2.54 to 5.08 mm (0.1 to 0.2 inch); bonded cellulose acetate
- 4 fiber bundle; nylon mesh; and polyethylene/films in 3- to 10-mil thickness.
- 38. A system as in claim 35 wherein said waterproof conveyance tube film layer is selected from
- a group consisting of a wettable material and a material that has been subjected to surface
- 3 treatments to render that said conveyance tube film layer wettable for holding liquid.
- 1 39. A system as in claim / wherein said means for storage comprises
- 2 means for wicking said urine into and within said means for storage;
- means for directing said urine into specific parts of said means for storage;
- 4 means for/absorbing said urine within said means for storage; and
- 5 means for retaining said urine within said means for storage, said means for wicking, said
- transport channel, said barrier wall, and said urine absorption element are all enclosed in said



urine impervious outer walls wherein said outer edges of said urine impervious outer walls are

- sealed by a means selected from a group consisting of folding, thermal bonding, and adhesive
- 9 bonding.
- 1 40. A system as in claim 39 wherein said means for directing said urine into specific parts of said
- 2 means for storage comprises barrier walls and compartment-defining lines.



41. A system as in claim 1 wherein said means for storage comprises straps connected to said

- means for storage for mounting said means for storage onto said human male.
- 42. A system as in claim 39 further comprising means for mounting said means for storage onto
- 2 said human male.



43. A system as in claim 35 wherein said conveyance tube comprises thin-wall material.

- 44. In creating an opening for inserting a human male penis into an expandable urine collection
- tube disposed with receiving openings along the perimeter of said urine collection tube, a method
- for using a tube-spreading tool having at least two legs each attached to at least one tip
- 4 comprising
- Inserting said tips of said tube-spreading tool into said receiving openings;
- 6 Applying pressure to said legs to expand said expandable urine collection tube to form a
- 7 cavity within said urine collection tube;
- 8 Inserting said penis into said cavity;

- Releasing said pressure on said legs wherein said urine collection tube compresses on said penis; and
- 11 Removing said tips of said tube-spreading tool from said receiving openings.
- 45. A urine collection device for collecting urine from the penis of a human male comprising thin-wall hollow conduction tube having proximal and distal ends and a cavity
- 3 sufficiently large to surround said penis;
- 4 compression tube having proximal and distal ends and sufficient radial size at said
- 5 proximal end to be disposed around and provide radial compression contact upon said penis and
- 6 said proximal end of said conduction tube; and
- means for wicking said urine away from said penis after said urine emerges from said
- 8 penis and while said urine is within said conduction tube and said compression tube, wherein
- 9 said means for wicking is disposed within said compression tube and said conduction tube.
- 46. A urine collection device as in claim 45 wherein said compression tube is properly sized to
- 2 provide radial compression contact on said conduction tube that is sufficient to minimize the
- 3 slippage of said conduction tube and to seal against leakage of said urine between said penis and
- 4 said conduction tube.
- 1 47. A urine collection device as in claim 45 wherein said compression tube distal end is
- 2 connected to said conduction tube proximal end and is properly sized to provide an area of radial
- 3 compression contact on said penis that is sufficient to minimize the slippage of said compression
- 4 tube and to seal against leakage of said urine between said penis and said compression tube.

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- 48. A urine collection device as in claim 45 wherein said conduction tube comprises a material
- selected from a group consisting of thin-wall PE "lay-flat" tubing, rubbery polymer, silicone
- rubber, latex rubber, polyolefin, flexible film material, fabrics, élastic, and elasticized fabric
- 4 wherein said material is physically flexible, facilitates liquid sealing, and enables frictional
- 5 stability of said collection device when worn by said human male.
- 1 49. A urine collection device as in claim 45 wherein said means for wicking comprises a material
- selected from a group consisting of rayor acetate needled felting; single component fibers
- 3 selected from a group consisting of wool, cotton, rayon, nylon, and polyester; blended fibers
- selected from a group consisting of wool, cotton, rayon, nylon, and polyester; said single
- 5 component and said blended/fibers fabricated into a form selected from a group consisting of
- 6 yarns, woven fabrics, mats, and felts; open-cell foamed polymers, elastomers such as
- 7 polyurethane foams; open-mesh materials such as steel wool; meshes of synthetic polymers such
- as polypropylene, and flexible solids such as latex.
- 50. A urine collection device as in claim 45 further comprising a means for expanding said
- 2 compression tube comprising
- 3 At least two tube-spreading tools each having at least one leg each having at least one tip;
- 4 and
- At least two receiving openings disposed upon the perimeter of said thin-wall material for
- 6 holding in place said tube-spreading tool, wherein said tool-spreading tool tips fit into said
- 7 receiving openings to be used in opposition for expanding said compression tube.

- 1 51. A urine collection device as in claim 50 wherein said tube-spreading tool tip is long enough
- 2 to enlarge the entire length of said compression tube.
- 52. A urine collection device as in claim 50 wherein said receiving openings have a form
- 2 selected from a group consisting of one or more recesses along said perimeter of said
- 3 compression tube and loops of fabric or fiber.
- 1 53. A urine collection device as in claim 50 wherein each said tube-spreading tool is disposed
- with two handles that are connected to and operate in scissors-like cooperation with said tube-
- 3 spreading legs in mated pair such that when one said handle is moved towards the other said
- 4 handle, one said leg moves away from the other said leg.
- 54. A urine collection device for collecting urine from the penis of a human male comprising
- 2 Slitted sheath tube having left and right slit flaps and a tube cavity sufficiently large to
- 3 surround said penis;
- 4 Means for securing said left slit flap to said right slit flap; and
- Means for wicking said urine away from said penis that is disposed within said slitted
- sheath tube, wherein said slitted sheath tube is held in place on said penis by said means for
- 7 securing.
- 1 55. A urine collection device as in claim 54 wherein said means for securing said left slit flap to
- 2 said right slit flap is selected from a group consisting of multiple hook-and-loop fasteners and
- 3 zip-lock-type fasteners.

- 56. A urine collection device for collecting urine from the penis of a human male comprising
- 2 Sheath tube having a tube cavity sufficiently large to surround said penis and an opening
- 3 radial edge;
- 4 Means for covering said penis with said sheath tube;
- 5 Means for securing said sheath tube to said penis; and
- Means for wicking said urine away from said penis that is disposed within said sheath
- tube, wherein said sheath tube covers said penis by said means for covering and is held in place
- 8 on said penis by said means for securing.
- 57. A urine collection device as in claim 56 wherein said means for covering said penis, having
- 2 tip and shaft, with said sheath tube comprises a ring of expandable tubing sized to fit said penis
- 3 shaft, wherein said ring is fixedly connected to said sheath tube opening radial edge, said sheath
- 4 tube is rolled upon said expandable tubing, and said sheath is rolled off of said expandable
- 5 tubing starting from said penis tip and traveling up said penis shaft until said sheath is fully
- 6 extended.
- 1 58. A urine collection device as in claim 57 wherein said means for securing said sheath tube to
- 2 said penis shaft is selected from a group consisting of said ring of expandable tubing and elastic-
- 3 like material from which said sheath tube is fabricated.
- 59. A urine collection device as in claim 56 wherein said means for covering said penis, having
- 2 tip and shaft, with said sheath tube comprises a rigid plastic bellows expandable to fit said penis
- 3 shaft, wherein said bellows is removably connected to said sheath tube opening radial edge, said
- 4 sheath tube is rolled upon said expandable bellows, said sheath is rolled off of said expandable

- 5 bellows starting from said penis tip and traveling up said penis shaft until said sheath is fully
- 6 extended, and said bellows are removed from said sheath tube.
- 1 60. A urine collection device as in claim 56 wherein said means for covering said penis, having
- 2 tip and shaft, with said sheath tube comprises
- 3 spring expandable to fit said penis shaft; and
- 4 toothed plastic strap disposed within said spring that allows said spring to expand but not
- 5 contract, wherein said spring/strap combination is removably connected to said sheath tube
- 6 opening radial edge, said sheath tube is rolled upon said expandable spring/strap, said sheath is
- 7 rolled off of said expandable spring/strap starting from said penis tip and traveling up said penis
- shaft until said sheath is fully extended, and said spring/strap is removed from said sheath tube.
- 1 61. A urine collection device as in claim 56 wherein said means for covering said penis having
- 2 tip and shaft with said sheath tube comprises a jaw ring expander for extending said sheath the
- 3 length of said penis shaft comprising
- 4 hand rest having hand end and ring end wherein a user grasps said hand rest at said hand
- 5 end;
- 6 expandable jaw ring having means for connection to said ring end of said hand rest; and
- lever having means of connection to said hand end of said hand rest, wherein said
- 8 expandable jaw ring expands when said lever is depressed by said user, said sheath is draped
- 9 over said expandable jaw ring, said sheath is moved longitudinally up said penis shaft by said
- expandable jaw ring, said sheath contracts to fit said penis, and said lever is depressed to expand
- said expandable jaw ring sufficiently to remove said expandable jaw ring from said penis.

- 1 62. A compression tube having proximal and distal ends for securing a liquid collection device
- 2 onto the penis of a human male comprising
- Thin-wall tube having interior and exterior surfaces;
- 4 Means for expansion; and
- 5 Collection device interface, wherein said thin-wall tube surrounds said penis through said
- 6 means for expansion and secures said collection device onto said penis through said collection
- 7. device interface.
- 1 63. A compression tube as in claim 62 wherein said thin-wall material comprises at least one
- 2 layer and is selected from a group consisting of woven elastomeric fabric, non-woven elastic
- 3 fabric, elastic fiber-containing fabric, elastomeric sheeting made from latex rubber, and
- 4 elastomeric sheeting made from silicone rubber wherein said material is adaptable to waterproof
- 5 coating and wherein said material, after waterproof coating, can still allow evaporation of water
- 6 vapor from said penis.
- 1 64. A compression tube as in claim 62 wherein said compression tube distal end is connected to
- 2 said collection device interface proximal end and said conduction tube proximal end is connected
- 3 to said collection device interface distal end, said compression tube is properly sized to provide
- 4 an area of radial compression contact on said penis that is sufficient to minimize the slippage of
- 5 said compression tube and to seal against leakage of said urine between said penis and said
- 6 compression tube.
- 1 65. A compression tube as in claim 62 wherein said means for expanding said compression tube
- 2 comprises

- At least two tube-spreading tools each having at least one leg each having at least one tip;
- 4 and
- At least two receiving openings disposed upon the perimeter of said thin-wall material for
- 6 holding in place said tube-spreading tool, wherein said tool-spreading tool tips fit into said
- 7 receiving openings to be used in opposition for expanding said compression tube.
- 1 66. A compression tube as in claim 62 wherein said tube-spreading tool tip is long enough to
- 2 enlarge the entire length of said compression tube.
- 1 67. A compression tube as in claim 62 wherein said receiving openings have a form selected
- 2 from a group consisting of one or more recesses along said perimeter of said compression tube
- 3 and loops of fabric or fiber.
- 1 68. A compression tube as in claim 62 wherein each said tube-spreading tool is disposed with
- 2 two handles that are connected to and operate in scissors-like cooperation with said tube-
- 3 spreading legs in mated pair such that when one said handle is moved towards the other said
- 4 handle, one said leg moves away from the other said leg.
- 1 69. A method for pretreating with rayon felt and liquid cleaner a urine collection tube having an
- 2 interior surface for collecting urine from the penis of a human male comprising
- Wetting said rayon felt with said liquid cleaner;
- Wiping said interior surface completely with said wetted rayon felt; and

- Allowing said interior surface to dry for at least one hour at room temperature so that said
- 6 interior surface enabled said urine collection device to draw said urine away from said penis of
- 7 said human male.
- 1 70. A method as in claim 69 further comprising inflating said urine collection tube with air in
- 2 order to break the wall-to-wall adhesion of said tube.
- 71. A process for rendering the interior surface of a urine collection tube wettable by water
- 2 selected from a group consisting of pretreatment by corona discharge, pretreatment by flame, and
- 3 pretreatment by liquid cleaner.
- 1 72. A method for manufacturing a liquid-sealed compression tube used for holding a urine
- 2 collection tube in place on the penis of a human male using liquid rubber cement, spandex fabric,
- 3 latex rubber, and rayon felt, comprising
- 4 Connecting a rectangle of said spandex fabric to itself along its short edges to create said
- 5 compression tube having interior and exterior surfaces;
- 6 Lightly coating portions of said interior surface of said compression tube with a material
- 7 selected from a group consisting of liquid rubber cement, silicone rubber of low durometer, and
- 8 foamed polymer having elastomeric properties;
- 9 Allowing said interior surface coating to dry;
- Coating said exterior surface of said compression tube with said liquid rubber cement;
- Bonding a sheet of said latex rubber to said exterior surface of said compression tube
- where said exterior surface was coated with said liquid rubber cement; and
- Attaching a strip of said rayon felt to said interior surface of said compression tube.

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1 73. A method for use of a urine collection system for a human penis having a conduction tube

- 2 having interior and exterior surfaces and shaft and tip ends and a compression tube having
- 3 interior and exterior surfaces and proximal and distal ends comprising
- Applying a friction enhancer coating to portions of said interior surface of said
- 5 compression tube;

Applying at least one circumferential ring of fluid impervious coating to the surface of said penis and not coincident with said friction enhancer coating wherein said fluid impervious coating is a material selected from a group consisting of urine resistant cream and urine resistant jelly product;

Fully extending said conduction tube circumferentially around the shaft of said penis wherein said tip end of said conduction tube surrounds the tip of said penis, and said shaft end of said conduction tube rests circumferentially on the shaft of said penis;

Extending said compression tube circumferentially around the shaft of said penis, adjacent to said shaft end of said conduction tube wherein said compression tube overlays said conduction tube for a distance sufficient such that said compression tube is completely underlain by said conduction tube and said compression tube provides compression onto said conduction tube so that both said compression tube and said conduction tube remain in position on said penis.

74. A method as in claim 73 wherein said friction enhancer coating is latex rubber.

- 1 75. A method as in claim 73 wherein said fluid impervious coating is a material selected from a
- 2 group consisting of silicone rubber of low durometer and foamed polymer having elastomeric
- 3 properties.
- 1 76. A method for use of a urine collection system for a human penis having a conduction tube
- 2 having interior and exterior surfaces and shaft and tip ends and a compression tube having
- 3 interior and exterior surfaces and proximal and distal ends comprising
- 4 Attaching said shaft end of said conduction tube to said distal end of said compression
- 5. tube;
- Applying friction enhancer coating to said interior surface of said compression tube;
- Applying at least one circumferential ring of fluid impervious coating to the surface of
- 8 said penis and not coincident with said friction enhancer coating wherein said fluid impervious
- 9 coating is a material selected from a group consisting of urine resistant cream and urine resistant
- 10 · jelly product;
- Enlarging said proximal end of said compression tube to fit over said penis by applying
- outward tension forces to said proximal end of said compression tube; and
- Extending said conduction tube/compression tube combination proximally along the shaft
- of said penis wherein said tip end of said conduction tube rests near the tip of said penis and said
- proximal end of said compression tube rests circumferentially along the shaft of said penis
- adjacent to the skin of said penis, wherein interior surface of said compression tube provides
- 17 compression onto said penis so that said conduction tube/compression tube combination remains
- in position along the shaft of said penis.
- 1 77. A method as in claim 76 wherein said friction enhancer coating is latex rubber.

- 1 78. A method as in claim 76 wherein said fluid impervious coating is a material selected from a
- 2 group consisting of silicone rubber of low durometer and foamed polymer having elastomeric
- 3 properties.

79. A conveyance tube for conveying urine from a human male collection device to a urine

- storage device comprising
- 3 conduction tube having walls of any thickness and an interior cavity within said walls;
- 4 and
- wicking spacer disposed within said conduction tube wherein said wicking spacer wicks
- said urine away from said collection device and prevents said conveyance tube from completely
- 7 collapsing when said interior cavity is empty.
- 80. A conveyance tube as in claim 79 wherein said conduction tube comprises a material having
- 2 thin walls of varying cross-section selected from a group consisting of rubbery polymer such as
- 3 silicone rubber, latex rubber, elastic or elasticized fabric coated; loyolefins; falex; and polymeric
- 4 film.
- 81. A conveyance tube as in claim 79 wherein said wicking spacer comprises knitted nylon.
- 82. A conveyance tube as in claim 79 wherein said conduction tube is flat tube when said interior
- 2 cavity is empty of said urine and inflated when said interior cavity is filled with said urine.



- 83. A conveyance tube as in claim 79 wherein said wicking spacer is connected to said interior
- 2 cavity of said conduction tube.
- 1 84. A conveyance tube as in claim 79 wherein said interior cavity of said conduction tube
- 2 comprises a wettable material.
- 1 85. A means for storage of liquid urine collected through a means for collection from an
- 2 incontinent and mobile human male comprising
- storage container for said liquid urine having an outer shell and an inner cavity; and
- 4 spacer wicking disposed within said storage bag to store said urine within said storage
- 5 container.
- 86. A means for storage of liquid urine as in claim 85 wherein said inner cavity of said storage
- 2 container is divided into areas to facilitate immobilization of said urine within said storage
- 3 container and is coated with a gel selected from a group consisting of polyacrylamide,
- 4 polyacrylic acid: Na+ salt, polyacrylic acid: Na+ salt on starch, resin fine particles in paper fiber
- 5 matrix, needled felt pads, absorbent paper towels, and gel resin combined with inorganic
- 6 absorbent.
- 87. A means for storage of liquid urine as in claim 85 further comprising absorbent material
- disposed within said inner cavity of said storage container selected from a group consisting of
- 3 super absorbent polymers, cellulose, cellulose-derived materials, and wettable, fiberous
- 4 materials.

- 88. A means for storage of liquid urine as in claim 85 further comprising a means for distributing
- 2 said urine throughout said inner cavity of said storage container.
- 89. A means for storage of liquid urine as in claim 85 further comprising a means for attaching
- 2 said storage container to said human male.

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- 90. A means for storage of liquid urine as in claim 89 wherein said means for attaching said
- 2 storage container comprises leg straps attached to said outer shell of said storage container for
- wrapping around the leg of said human male.
- 91. A means for storage of liquid urine as in claim 85 further comprising a means for connecting
- 2 said storage container to said means for collection.
- 92. A means for storage of liquid urine as in claim 85 wherein the material of said outer shell of
- 2 said storage container is selected from a group consisting of thin polymer film and heavy
- 3 polymer film.



- 93. A means for storage of liquid urine as in claim 85 wherein said storage container is
- 2 disposable as sanitary waste.
- 94. A system as in claim 1 wherein said urine is transported upgradient from said means for
- 2 collection through said means for conveyance.
- 95. In a urine management system for human males having a urine collection device, a flat,
- 2 expandable conveyance tube containing wicking and spacers, a means for attaching said tube to
- 3 said human, a storage container, a means for attaching said storage container to said human, and
- 4 a means for presenting a fresh storage container, a method for use of said urine management
- 5 system comprising
- 6 attaching said urine collection device to said human;
- 7 attaching said tube to said urine collection device;
- 8 attaching said tube to said human via said means for attaching said tube;
- 9 attaching said storage container to said tube;
- attaching said storage container to said human via said means for attaching said storage
- 11 container;
- depositing urine into said urine collection device; and
- removing and replacing said storage container when said container is full.
 - 96. A method as in Claim 95 wherein said storage container is selected from a group consisting
- 2 of disposable and reusable.

